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10/528,079	03/17/2005	Anders Wallenbeck	050159-0040	6550

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EXAMINER
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TOOMER, CEPHIA D

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1797

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/528,079  
Filing Date: March 17, 2005  
Appellant(s): WALLENBECK ET AL.

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Aamer S. Ahmed  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed March 29, 2010 appealing from the Office action mailed August 3, 2009.

**(1) Real Party in Interest**

The examiner has no comment on the statement, or lack of statement, identifying by name the real party in interest in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The following is a list of claims that are rejected and pending in the application:

Claims 2, 3 and 8-17 are pending. Of these claims, claims 10-13 are withdrawn and claims 2, 3, 8, 9 and 14-17 are rejected.

**(4) Status of Amendments After Final**

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

**(5) Summary of Claimed Subject Matter**

The examiner has no comment on the summary of claimed subject matter contained in the brief.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The examiner has no comment on the appellant's statement of the grounds of rejection to be reviewed on appeal. Every ground of rejection set forth in the Office action from which the appeal is taken (as modified by any advisory actions) is being

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maintained by the examiner except for the grounds of rejection (if any) listed under the subheading "WITHDRAWN REJECTIONS." New grounds of rejection (if any) are provided under the subheading "NEW GROUNDS OF REJECTION."

**(7) Claims Appendix**

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant's brief.

**(8) Evidence Relied Upon**

4,229,309

CHENG

10-1980

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 2,3,8,9 and 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cheng (US 4,229,309).

Cheng teaches a stable fluid magnesium containing dispersion and the preparation thereof in a dispersant containing fluid (see abstract). Cheng teaches that the composition may be used as a corrosion inhibitor in fuels containing vanadium (see col. 5, lines 28-29) when used in an amount from 1-2000 ppm (see col. 6, lines 24-29).

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In the process,  $\text{Mg}(\text{OH})_2$  is disintegrated into minute particles of  $\text{MgO}$  which are immediately suspended and become stabilized in the fluid by the presence of a dispersing agent (see col. 1, lines 49-52). Cheng also teaches that the  $\text{MgO}$  may be reacted with water to form  $\text{Mg}(\text{OH})_2$  (see col. 5, lines 9-14). The process fluids may be mineral oils, paraffin oils, vegetable oil or mixtures (see col. 2, lines 1-5). The dispersant may be nonionic, anionic or amphoteric (see col. 2, lines 12-19). The particle size of the resulting  $\text{MgO}$  is no greater than about 5 microns (see col. 2, lines 28-32). The fluid preferably contains from 1-32% when calculated as percent magnesium of the  $\text{MgO}$  particles. Cheng teaches the concentration of the magnesium compound should be no more than that concentration that maintains suitable fluidity. This teaching suggests that more than 32% of the compound may be utilized (see col. 2, lines 33-40). Cheng teaches the limitations of the claims other than the differences that are discussed below.

Cheng fails to teach that the  $\text{MgO}$  particles have a crystalline low density structure of at most  $2.0 \text{ g/cm}^3$  or that the metal is capable of forming vanadate having a melting point of 650-2000 C. However, since Cheng teaches the same compound(s) as that of the present claims it would be reasonable to expect that the particles of Cheng would have similar properties.

#### **(10) Response to Argument**

Appellant's arguments have been fully considered but they are not persuasive.

Applicant argues that Cheng teaches that the  $\text{Mg}(\text{OH})_2$  is already dehydrated and decomposed into  $\text{MgO}$  during the manufacturing step and that the  $\text{MgO}$  is then

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added to the fuel. Applicant argues that Cheng does not teach the claimed additive because the MgO is not formed during the combustion of the fuel.

Appellant is claiming a fuel additive composition wherein said composition comprises an active ingredient dispersed in at least one liquid by means of a dispersant, wherein said active ingredient is an inorganic oxygen-containing compound of a metal in particle, non-crystalline form. Cheng meets these limitations. Cheng also teaches that upon heating the active ingredient the corresponding metal oxide forms and that the particle size distribution is no greater than 5 microns. Appellant is not claiming a method of using the additive and Appellant's intended use and functional language is given no patentable weight.

Appellant argues that the active ingredient in the present invention is magnesium hydroxide in powder form whereas Cheng teaches magnesium hydroxide crystals. Appellant argues that a clear advantage is achieved with the use of the additive in a non-crystalline form.

The examiner has reviewed Cheng in its entirety and finds no recitation regarding the initial metal particle being in crystalline form. Magnesium hydroxide, be it a commercial product or formed as suggested by Cheng, may be in powder form. With respect to Appellant achieving unexpected results with the use of the claimed additive, it is noted that Appellant is comparing MgO prepared from magnesium hydroxide to MgO prepared from  $\text{MgCO}_3$  (see Table on page 28). With respect to Example 4, the examiner does not find that unexpected results are obtained because the showings are not commensurate in scope with the claims. Claim 14 is generic with respect to the

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metal particle, dispersant and the liquid that is soluble in oil, whereas the example uses Mg as the metal, Rhodafac RE610 as the dispersant and rapeseed methyl ester as the liquid that is soluble in oil.

Appellant argues that Cheng's teaching that MgO dispersions can be further reacted to form dispersions of the corresponding derivative, for example, that the MgO can be reacted with  $H_2O$  to form  $Mg(OH)_2$  would destroy the crystalline MgO as recited in the present invention.

It is the examiner's position that Appellant's statement is unsubstantiated. Appellant has not shown that the magnesium compounds of Cheng are not in the same form as that of the present invention. Cheng is in the same field of endeavor, using what appear to be the same magnesium compounds as set forth in the present invention, and he clearly teaches that the magnesium compounds act as corrosion inhibitors in fuels containing vanadium.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Cephia D. Toomer/  
Primary Examiner, Art Unit 1797

Conferees:

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